

**What is claimed is:**

1. An integrated speech synthesizer with an automatic identification of speaker connections comprising:

a sound encode register for storing encoded digitized sound data;

a first speech synthesis unit connected to said sound encode register for converting said digitized sound data from said sound encode register to a first analog signal and sending out said first analog signal through a first output terminal;

a second speech synthesis unit connected to said sound encode register for converting said digitized sound data from said sound encode register to a second analog signal and sending out said second analog signal through a second output terminal and said first output terminal; and

a state register connected to said first output terminal for storing a state of said first output terminal before said speech synthesizer is enabled;

wherein said speech synthesizer is automatically set up with an initial value in reference to said state stored in said state register.

2. An integrated speech synthesizer according to claim 1

wherein said first speech synthesis unit is a PCM speech synthesis unit.

3. An integrated speech synthesizer according to claim 2  
5 wherein said first output terminal is in a high impedance state before connected to a speaker.

4. An integrated speech synthesizer according to claim 3  
10 wherein said first output terminal is in a low level and said first speech synthesis unit can be enabled when a drive circuit for said speaker is connected to said first output terminal only.

5. An integrated speech synthesizer according to claim 1  
15 wherein said second speech synthesis unit is a direct drive type speech synthesis unit.

6. An integrated speech synthesizer according to claim 5  
20 wherein said second speech synthesis unit is a push-pull type speech synthesis unit.

7. An integrated speech synthesizer according to claim 6  
wherein said second speech synthesis unit is a PWM speech synthesis unit.

8. An integrated speech synthesizer according to claim 7

wherein said second output terminal is in a high level before said speech synthesizer is enabled.

9. An integrated speech synthesizer according to claim 8 wherein said first output terminal is in a high level and said second speech synthesis unit can be enabled when said speaker is connected to said first and second output terminals.

10. A method for automatic identification of speaker connections to an integrated speech synthesizer with a PCM and direct drive type speech synthesis units, said PCM speech synthesis unit enable to send out a first analog signal from a first output terminal, said direct drive type speech synthesis unit enable to send out a second analog signal from a second output terminal and said first output terminal, said method comprising:

sending out a preset voltage from said second output terminal;

storing a state of said first output terminal with a state register before said speech synthesizer is enabled; and

setting up said speech synthesizer with an initial value in reference to said state stored in said state register.

11. A method according to claim 10 wherein said preset voltage is high.

12. A method according to claim 10 wherein said first output terminal is in a low level and said first speech synthesis unit can be enabled when a drive circuit for said speaker is connected to said first output terminal only.

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13. A method according to claim 10 wherein said first output terminal is in a high level and said direct drive type speech synthesis unit can be enabled when said speaker is connected to said first and second output terminals.

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